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Comments on GridWise Architecture Council / NIST Home-to-Grid Domain Expert Working Group
Free Market Choice for Appliance Physical Layer Communications

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Please identify the location of each comment by page and line number. Provide your comment and your proposed change, if any.

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E/G/T: E = editorial (typo, grammar, clarification), G = general, T = technical
ID = (Company initials)-(comment number); e.g., NIST-1 for first NIST comment; NIST-2 for second NIST comment

Page	Line	E/G/T	ID	Comment	Proposed change	Resolution by subcommittee
6	216	G	IC-1	The appliance industry relies on its suppliers for specific communications protocol experience. For instance, Whirlpool will rely on its microcontroller vendor, Freescale, for a Zigbee solution. Other solution providers used in the appliance industry include Atmel, Microchip, Echelon, TI, ST Microelectronics, etc. The lack of technical expertise in a specific communications protocol is not an issue. Even the smaller appliance makers such as Bosch/Siemens, Wolf/Sub-Zero, Dacor, and Viking will purchase their electronic controls from other suppliers such as Invensys, AKO Diehl, Emerson, Spitfire, Elan, etc. These suppliers will, in turn, rely on specific solution providers mentioned above (Atmel, TI, etc.). The more prevalent and important impediment is that the appliance OEM's do not have the proper motivation to collaborate with their competition in developing an interoperable communications standard. Rather, these OEM's would rather maintain a proprietary protocol to limit access to the functionality of their controls and limit their competition.	Replace lines 216 to 222 with: Appliance Makers not Motivated to Collaborate on a Communications Protocol Currently, the largest appliance OEMs do not have the motivation to collaborate on a common communications protocol. Rather, these OEMs prefer to maintain a proprietary machine-local protocol used for inter-module communications within a single appliance and not open the possibility of interoperable communication with their competitors. These local protocols could easily communicate with a small transceiver embedded in the appliance for communication with the smart grid; however, with the disparity of proprietary protocols used, this transceiver module would also be proprietary and specific to the appliance manufacturer. Without evidence of a significant market advantage of providing a smart-grid appliance, the OEMs are not willing to move towards a common local protocol to interface with a smart-grid transceiver.	

Page	Line	E/G/T	ID	Comment	Proposed change	Resolution by subcommittee
6	249	G	IC-2	Considering that the small appliance makers relay on electronics control suppliers as noted above, there is not an issue with the smaller appliance makers not having the capability to embed communications protocols into their appliance. Actually, it is quite the contrary. The only Invensys appliance customers who are asking for smart-grid capabilities are the small OEMs. The large OEMs seem to take the position that they own the market and can therefore dictate the features that become main-stream. Also, the large OEMs generally produce the low cost appliances and will not incorporate smart-grid capabilities unless the market demands it due to the added cost. The small OEMs typically produce high-end appliances in which the small cost of a transceiver is easily absorbed. They also recognize that they do not own the market and therefore must be ready with whatever technologies have the potential to give them a market advantage even if that advantage is not clear today.	Remove lines 249-253	